

Subject Area	Topic	Title	Authors	Link/Website	Institution	Date	Report #	Sponsor	Summary
Analysis	Capacity Analysis	CAPACITY ANALYSIS OF PEDESTRIAN AND BICYCLIST FACILITIES		<a href="http://fhrc.gov/safety/pedbike/research/curren.htm#6">http://fhrc.gov/safety/pedbike/research/curren.htm#6</a>					A compendium of data on a range of topics relating to improving bicycle and pedestrian safety. Program is sponsored by the National Highway Traffic Safety Administration (NHTSA). The primary purpose of the site is to provide State and local transportation, planning, and highway safety professionals with information on, and access to, the tools they need to implement projects and programs for pedestrian and bicyclists.
Analysis	Crash Analysis Tools	BETA TESTING OF THE PEDESTRIAN AND BICYCLE CRASH ANALYSIS TOOL	David L. Harkey and Richard D. Blomberg	<a href="http://www.nhtsa.dot.gov/people/injury/pedbimot/ped/pbcatjan01/index.html">http://www.nhtsa.dot.gov/people/injury/pedbimot/ped/pbcatjan01/index.html</a>	University of North Carolina Highway Safety Research Center	July 1999 - July 2000		Office of Research and Traffic Records, NTS-31 National Highway Traffic Safety Administration	The Pedestrian and Bicycle Crash Analysis Tool (PBCAT) is a software product intended to assist State and local bicycle coordinators, planners, and engineers with improving walking and bicycling safety through the development and analysis of a database containing details associated with crashes between motor vehicles and pedestrians or bicyclists. One of these details is the crash type which describes the pre-crash actions of the parties involved. This product was developed by the Federal Highway Administration in cooperation with the National Highway Traffic Safety Administration. The beta version of the software was completed in November 1999. Subsequently, the product underwent a limited beta test that involved a number of practitioners. This report documents the results of the test and provides recommended enhancements for future versions of PBCAT.
Analysis	Data Sources	BICYCLE AND PEDESTRIAN DATA: NEEDS, SOURCES & GAPS	William Schwartz and Christopher Porter	<a href="http://www.bts.gov/publications/bicycle_and_pedestrian_data/entire.pdf">http://www.bts.gov/publications/bicycle_and_pedestrian_data/entire.pdf</a>	Cambridge Systematics, Inc	Jun-05	BTS00-02	U.S. Department of Transportation Bureau of Transportation Statistics	The study has the following objectives: First, to provide an inventory of existing sources of bicycle and pedestrian-related data, including the extent, quality, and limitations of these sources; Second, to identify and prioritize areas in which additional or improved data are needed; and Third, to identify and recommend opportunities for improving the quality of bicycle and pedestrian data.
Analysis	Economics	ECONOMIC VALUE OF WALKABILITY	Todd Litman	<a href="http://www.landcenter.ca/cframedoc.cfm?ID=5290">http://www.landcenter.ca/cframedoc.cfm?ID=5290</a>	Victoria Transport Policy Institute	Mar-03			This paper uses standard economic evaluation methods to investigate the value of walking (the activity) and walkability (the quality of walking conditions, including safety, comfort and convenience). Walking and walkability provide a variety of benefits, including community livability, accessibility (particularly for people who are transportation disadvantaged), transportation cost savings, public health, reduced external transportation costs, more efficient land use, economic development, and support for equity objectives. Current transportation planning practices tend to undercount and undervalue walking. More comprehensive analysis techniques, described in this paper, are likely to justify increased investment and support for walking and other nonmotorized modes of travel.
Data	Case Studies	PEDESTRIAN CROSSWALK CASE STUDIES: RICHMOND, VIRGINIA; BUFFALO, NEW YORK; STILLWATER, MINNESOTA	U.S. Department of Transportation Federal Highway Administration	<a href="#">Pedestrian Crosswalk Case Studies</a>			FHWA-RD-00-103 August 2001		This research determined the effect of crosswalk markings on driver and pedestrian behavior at unsignalized intersections. A before/after evaluation of crosswalk markings was conducted at 11 locations in 4 U.S. cities. Behavior observed included: pedestrian crossing location, vehicle speeds, driver yielding, and pedestrian crossing behavior. It was found that drivers approach a pedestrian in a crosswalk somewhat slower, and that crosswalk usage increases after markings are installed. From this study it appears that marking pedestrian crosswalks at relatively low-speed, low-volume, unsignalized intersections is a desirable practice, based on the sample of sites used in this study.
Data	Countdown Signals	THE EFFECTS OF PEDESTRIAN COUNTDOWN SIGNALS IN LAKE BUENA VISTA	Herman Huang and Charles Zegeer	<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/CNT-REPT.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/CNT-REPT.pdf</a>	University of North Carolina at Chapel Hill Highway Safety Research Center	Nov-00		Florida Department of Transportation	The objective of this study was to evaluate the effects of countdown signals at intersections in Lake Buena Vista, Florida. A "treatment" and "control" study design was used: countdown signals at two intersections were matched with three control intersections that were similar but did not have countdown signals. The study was performed by the University of North Carolina Highway Safety Research Center.
Data	Course Materials	FHWA COURSE ON BICYCLE AND PEDESTRIAN TRANSPORTATION	US DOT Federal Highway Administration	<a href="http://www.landcenter.ca/cframedoc.cfm?ID=5611">http://www.landcenter.ca/cframedoc.cfm?ID=5611</a>	United States. Department of Transportation. Federal Highway Administration				Planning for bicycle and pedestrian travel is a somewhat new field of study, and yet it also involves planning and engineering techniques that have been around for many years. This course book provides the reader with current information on pedestrian and bicycle planning and design techniques, as well as practical lessons on how to increase bicycling and walking through land use practices, engineering measures, and a variety of other urban and rural design procedures. This manual can be used to train future professionals, including planners, engineers, landscape architects, and other designers, in a variety of disciplines. Emphasis is placed on the importance of developing an interdisciplinary team approach to planning and implementing bicycle and pedestrian programs, and of the role played by each profession represented in this course.

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Data	Crosswalks	THE EFFECT OF CROSSWALK MARKINGS ON VEHICLE SPEEDS IN MARYLAND, VIRGINIA AND ARIZONA	Richard L. Knoblauch and Paula D. Raymond Center for Applied Research, Inc.. Sponsored by the Office of Safety Research and Development	<a href="http://www.tfhrc.gov/safety/pedbike/pubs/0101.pdf">http://www.tfhrc.gov/safety/pedbike/pubs/0101.pdf</a>	Center for Applied Research, Inc	Aug-00	FHWA-RD-99-	Office of Safety R&D Federal Highway Administration	A before/after evaluation of pedestrian crosswalk markings was performed in Maryland, Virginia, and Arizona. Six sites that had been recently resurfaced were selected. All sites were at uncontrolled intersections with a speed limit of 56 km/h (35 mi/h). Before data were collected after the centerline and edgeline delineation was installed but before the crosswalk was installed. After data were collected after the crosswalk markings were installed. Speed data were collected under three conditions: no pedestrian present, pedestrian looking, and pedestrian not looking. All pedestrian conditions involved a staged pedestrian. The results indicate a slight reduction at most, but not all, of the sites. Overall, there was a significant reduction in speed under both the no pedestrian and the pedestrian not looking conditions. It appears that crosswalk markings make drivers on relatively low-speed arterials more cautious and more aware of pedestrians.
Data	Facilities	PEDESTRIAN FACILITIES IN SOUTH AFRICA: RESEARCH AND PRACTICE	Hubrect Ribbens	<a href="http://www.enhancements.org/trb%5C1538-002.pdf">http://www.enhancements.org/trb%5C1538-002.pdf</a>					An overview of the pedestrian accident problem in South Africa is given, and the engineering solutions implemented to improve pedestrian safety are discussed.
Data	In-Street Yield to Pedestrians	YEAR 2 FIELD EVALUATION OF EXPERIMENTAL "IN-STREET" YIELD TO PEDESTRIAN SIGNS	City Of Madison Department Of Transportation Traffic Engineering Division	<a href="http://www.walkinginfo.org/pdf/r&amp;d/ytpsign.pdf">http://www.walkinginfo.org/pdf/r&amp;d/ytpsign.pdf</a>	City Of Madison Department Of Transportation	Jun-05			The City of Madison Traffic Engineering Division requested and received approval in 1997 from the Federal Highway Administration to experiment with regulatory in-street "Yield to Pedestrians" signs at selected marked crosswalk locations. The experiment began in the spring of 1998. The goal of the experiment was to evaluate the effectiveness of the sign to positively change motorist behavior with respect to yielding to pedestrians at crosswalks. Three test sites, each having different geometric and pedestrian usage characteristics, were selected for the first year of the experiment. This was expanded to five sites in 1999, the second year of the experiment.
Data	No Turn on Red	THE EFFECTS OF NO TURN ON RED / YIELD TO PEDS VARIABLE MESSAGE SIGNS ON MOTORIST AND PEDESTRIAN BEHAVIOR	Herman Huang	<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/nrtor%20yieldtoped%20blankout%20signs%20research.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/nrtor%20yieldtoped%20blankout%20signs%20research.pdf</a>	University of North Carolina at Chapel Hill Highway Safety Research Center	Nov-00		Florida Department of Transportation	This report evaluates the effects of variable message signs in Orlando, Florida, on motorist and pedestrian behavior. The signs display a NO TURN ON RED message to motorists in the right-turn lane when they have a red signal. The signs display a YIELD TO PED message to motorists in the right-turn lane when they have a green signal. The study was performed by the University of North Carolina Highway Safety Research Center.
Data	Older Pedestrians	THE MOBILITY NEEDS OF OLDER AMERICANS: IMPLICATIONS FOR TRANSPORTATION REAUTHORIZATION	Sandra Rosenbloom	<a href="http://www.mobilityneeds.org/OlderAmericans">The Mobility Needs of Older Americans</a>	Center on Urban and Metropolitan Policy				This brief challenges the easy assumptions that underlie most policy debates on providing transportation to the elderly. It discusses how an aging society adds to a range of transportation problems and argues that Congress should consider special approaches to meet the mobility and access needs of the elderly as it debates reauthorization of the Transportation Equity Act of the 21st Century (TEA-21).
Data	Pedestrian and Bicycle Safety Course	FHWA COURSE ON BICYCLE AND PEDESTRIAN TRANSPORTATION		<a href="http://safety.fhwa.dot.gov/pedbike/univcourse/pdf/swless124.pdf">http://safety.fhwa.dot.gov/pedbike/univcourse/pdf/swless124.pdf</a>	U.S. DOT				
Data	Pedestrian Demand	GROWING DEMAND: THE PERSPECTIVE OF THE PEDESTRIAN AND BICYCLE INFORMATION CENTER FOR SAFE WALKING AND BICYCLING		<a href="http://www.pedbikeinfo.org/pdf/fouryearreport.pdf">http://www.pedbikeinfo.org/pdf/fouryearreport.pdf</a>	Pedestrian and Bicycle Information Center	Apr-04		North Carolina Highway Research Center	This report looks at the demand for bicycling and walking from 1999 to 2002 through the eyes of the Pedestrian and Bicycle Information Center (PBIC). The Center was established in 1999 as a national clearinghouse on walking and bicycling for the US Department of Transportation through funding by the US Congress in the Transportation Equity Act for the 21st Century. Over the four years of our existence, we have been able to track interest in walking and bicycling through the demand we are seeing for information and through our coordination of a rapidly-growing community event called International Walk to School Day. The conclusion: walking and bicycling clearly are at the heart of what many Americans want.
Data	Planting Strips	WHAT ARE THE ADVANTAGES OF SETTING BACK THE SIDEWALK WITH A PLANTING STRIP?	John Z Wetmore	<a href="http://www.pedestrians.org/tips.htm">http://www.pedestrians.org/tips.htm</a>	pedestrians.org	Feb-04		pedestrians.org.	Sidewalks can be built right at the edge of the street ..... or sidewalks can be separated from the curb by a planting strip, that is just several feet of grass between the sidewalk and the street. What a difference this green space can make!

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Data	Quality of Service	QUALITY OF SERVICE FOR UNINTERRUPTED PEDESTRIAN FACILITIES IN THE 2000 HIGHWAY CAPACITY MANUAL	Joseph S. Milazzo II, PE, Nagui M. Rouphail, Ph.D., PE, Joseph E. Hummer, Ph.D., PE, D. Patrick Allen, PE	<a href="http://itre.ncsu.edu/highways/download/uninterrupted.pdf">http://itre.ncsu.edu/highways/download/uninterrupted.pdf</a>					<p>The objective of the research described in this paper was to develop the basis for revised operational analysis procedures for transportation facilities with pedestrian users where flow is not interrupted by traffic control devices. This paper contains both new and revised level of service tables for analyzing various types of uninterrupted pedestrian facilities. It details the results of a review and synthesis of American and international literature as part of a Federal Highway Administration study of pedestrian and bicycle facilities conducted by North Carolina State University between 1995 and 1998. The year 2000 edition of the U.S. Highway Capacity Manual will incorporate, either directly or indirectly, most of the revised and synthesized information described in this paper. The research team recommends that the HCM revise the pedestrian walkway level of service to reflect the current literature. Proposed revisions include a decrease in the threshold for LOS A from 130 to 60 ft<sup>2</sup>/ped (12 to 5.6 m<sup>2</sup>/ped), and a change in the capacity level from 6 to 8 ft<sup>2</sup>/ped (0.6 to 0.75 m<sup>2</sup>/ped).</p> <p>We recommend the incorporation of a simplified walkway platoon level of service. In addition, given the different expectations of acceptable levels of platoon in transportation terminals, we recommend different level of service criteria for these facilities. We also identified a method of analyzing pedestrians on shared pedestrian-bicycle paths. Although developed in the Netherlands, the procedure has been validated on at least one trail in the United States, and is therefore recommended for inclusion in the HCM.</p>
Data	Signing	THE EFFECTS OF INNOVATIVE PEDESTRIAN SIGNS AT UNSIGNALIZED LOCATIONS: A TALE OF THREE TREATMENTS	U.S. Department of Transportation Federal Highway Administration	<a href="http://www.walkinginfo.org/task_orders/to_11/3signs00.pdf">http://www.walkinginfo.org/task_orders/to_11/3signs00.pdf</a>	University of North Carolina Highway Safety Research Center & City of Tucson Carolina Department of Transportation	Aug-00	FHWA-RD-00-098 August 2000	Federal Highway Administration Turner-Fairbank Highway Research Center	<p>This paper evaluates three advisory and regulatory signs re used in conjunction with marked crosswalks. The signs were used under different traffic and roadway conditions. None of the treatments had a clear effect on whether people crossed in the crosswalk. All of the signs resulted in benefits to pedestrians using the crosswalks. These devices by themselves cannot ensure that motorists will slow down and yield to pedestrians. It is essential to use these devices together with education and enforcement.</p>
Data	Traffic Calming	THE EFFECTS OF TRAFFIC CALMING MEASURES ON PEDESTRIAN AND MOTORIST BEHAVIOR	Herman F. Huang and Michael J. Cyneck	<a href="http://www.walkinginfo.org/task_orders/to_11/Calmtrmt.pdf">http://www.walkinginfo.org/task_orders/to_11/Calmtrmt.pdf</a>	Highway Safety Research Center University of North Carolina and City of Phoenix Street Transportation Dept.	Aug-01	FHWA-RD-00-104	Federal Highway Administration Turner-Fairbank Highway Research Center	<p>Traffic calming treatments may benefit pedestrians who are crossing the street by slowing down vehicle traffic, shortening crossing distances, and enhancing motorist and pedestrian visibility. The objective of this study is to evaluate the effects of selected traffic calming treatments, at both intersection and mid-block locations, on pedestrian and motorist behavior.</p>
Data	Transit access needs assessment	RAIL STATION ACCESS: BICYCLE AND PEDESTRIAN NEEDS ASSESSMENT	North Central Texas Council of Governments Transportation Department	<a href="http://www.dfwinfo.com/trans/bikeped/access_to_rail/Access_to_Rail_RMI.pdf#page=5&amp;zoom=100">http://www.dfwinfo.com/trans/bikeped/access_to_rail/Access_to_Rail_RMI.pdf#page=5&amp;zoom=100</a>	North Central Texas Council of Governments and the Regional Transportation Council	Feb-03			<p>Rail Station Access is key to increasing rail ridership. The completion of the first phase of the region's light and commuter rail system provides new travel opportunities for area residents, yet many barriers prevent access to the region's rail system. Local improvements such as sidewalk repair or new developments at stations can help solve regional mobility constraints by providing more transportation alternatives.</p>
Data	Travel estimation	GUIDEBOOK ON METHODS TO ESTIMATE NON-MOTORIZED TRAVEL: AN OVERVIEW OF METHODS	WL Schwartz, CD Porter, GC Payne, JH Suhrbier, PC Moe, WL Wilkinson III. Cambridge Systematics, Inc. Bicycle Federation of America	<a href="http://www.tfhrc.gov/safety/pedbike/vol1/contents.htm">http://www.tfhrc.gov/safety/pedbike/vol1/contents.htm</a>	Cambridge Systematics, Inc., Bicycle Federation of America	Jul-99	FHWA-RD-98-165	Federal Highway Administration	<p>This guidebook provides a means for practitioners to better understand and estimate bicycle and pedestrian travel and to address transportation planning needs. The guidebook describes and compares the various methods that can be used to forecast non-motorized travel demand or that otherwise support the prioritization and analyses of non-motorized projects. These methods are categorized according to four major purposes: (1) demand estimation; (2) relative demand potential; (3) supply quality analysis; and (4) supporting tools and techniques. Discrete choice models, regional travel models, sketch plan methods, facility demand potential, bicycle compatibility measures, and geographic information systems are among the methods and tools described.</p>
Design	Accessibility	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES		<a href="http://www.access-board.gov">http://www.access-board.gov</a>		Jul-04			<p>The U.S. Access Board will publish a revised version of ADAAG on July 26, 2004. Pedestrian facilities must comply with all relevant aspects of ADAAG, including the requirements for accessible routes, protruding objects, space allowances and reach ranges. However, the grade of a sidewalk adjacent to a roadway is permitted to mirror the grade of a roadway, even if it exceeds the grade requirements in ADAAG.</p>

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Design	Accessibility Guidelines	DRAFT GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY	Public Rights-of-Way Access Advisory Committee	<a href="http://www.access-board.gov/rowdraft.htm">http://www.access-board.gov/rowdraft.htm</a>		Jun-02			The draft guidelines for public rights-of-way are being developed as a supplement to the ADA and ABA guidelines and not as a stand-alone document. As such, they will ultimately comprise a new chapter on public rights-of-way. The Board has revised recommendations from the advisory committee in preparing these draft guidelines in order to facilitate their incorporation into the ADA and ABA guidelines. The draft guidelines presented here support the new format and structure of those documents. In addition, various provisions of this draft refer to provisions in the ADA and ABA guidelines to minimize redundancy. For simplicity, the following discussion refers to the draft final ADA and ABA guidelines released in April as "ADAAG," an acronym that has wide currency.
Design	Guidelines	DESIGN GUIDELINES MANUAL— DESTINATION 2030 PHYSICAL DESIGN GUIDELINES		<a href="http://www.psrc.org/projects/growth/design_manual.pdf">http://www.psrc.org/projects/growth/design_manual.pdf</a>	Puget Sound Regional Council	Summer 2003			This Manual illustrates and describes ways to create urban places that are friendly to people. Many cities around central Puget Sound are working to encourage growth of housing and jobs in regional growth centers. This manual gives examples of good design that can help centers become more livable places where people can conveniently walk, bike, or use transit.
Design	Guidelines	GUIDELINES FOR BICYCLE AND PEDESTRIAN FACILITIES IN TEXAS	Robert J. Benz, Katherine F. Turnbull, Shawn Turner, Danise S. Hauser, Pedro S. Hurtado and Gene Hawkins, Jr.	<a href="http://safety.fhwa.dot.gov/fourthlevel/pdf/Guide.PDF">http://safety.fhwa.dot.gov/fourthlevel/pdf/Guide.PDF</a>	Texas Transportation Institute	Dec-97	FHWA/TX-97/1449-3F	Texas Department of Transportation	Guidelines for planning and designing bicycle and pedestrian facilities in Texas. An overview of the process for planning various types of bicycle and pedestrian projects is provided. The design techniques that can be used to accommodate bicycles on existing and new roadways are summarized.
Design	MUTCD	THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CODE 23 OF FEDERAL REGULATIONS (CFR), PART 655, SUBPART F	U.S. Department of Transportation Federal Highway Administration	<a href="http://mutcd.fhwa.dot.gov/index.htm">http://mutcd.fhwa.dot.gov/index.htm</a>		Mar-02			<p>The Manual on Uniform Traffic Control Devices, or MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), Part 655, Subpart F. Detailed drawings of the Standard Highway Signs prescribed or provided for in the Manual on Uniform Traffic Control Devices (MUTCD), 2000 Millennium Edition, have been prepared by the Office of Transportation Operations, Federal Highway Administration, U.S. Department of Transportation, for use by all traffic authorities, agencies, jurisdictions and persons involved with the fabrication, installation and maintenance of traffic signs on streets and highways in the United States. This reference provides the specifications for what Accessible Pedestrian Signals are. Accessible Pedestrian Signals provide crossing information to pedestrians with low vision and to pedestrians who are blind. While accessible pedestrian signals have value at all intersections, they are most critical at intersections with irregular crossing conditions, such as skewed or T-intersections.</p> <p>The MUTCD provides standardized information about how an accessible signal should be designed. It also provides guidance as to when an accessible signal should be considered.</p>
Design	Older Driver	OLDER DRIVER HIGHWAY DESIGN HANDBOOK		<a href="http://www.tfhrc.gov/safety/pubs/97135/index.htm">http://www.tfhrc.gov/safety/pubs/97135/index.htm</a>			FHWA-RD-97-135		Older motorists can be expected to have problems driving given the known changes in their perceptual, cognitive, and psychomotor performances, presenting many challenges to transportation engineers, who must ensure system safety while increasing operational efficiency. This Older Driver Highway Design Handbook provides practitioners with a practical information source that links older road user characteristics to highway design, operational and traffic engineering recommendations by addressing specific roadway features. This handbook supplements existing standards and guidelines in the areas of highway geometry, operations, and traffic control devices. The information in this handbook should be of interest to highway designers, traffic engineers, and highway safety specialists involved in the design and operation of highway facilities. In addition, this handbook will be of interest to researchers concerned with issues of older road user safety and mobility.
Design	Policy	CREATING WALKABLE COMMUNITIES	Mid-America Regional Council	<a href="http://www.bikewalk.org/assets/pdf/Creating_Walkable_Communities.pdf">http://www.bikewalk.org/assets/pdf/Creating_Walkable_Communities.pdf</a>		Dec-98		Bicycle Federation of America	This report is designed to serve as a tool for local governments and concerned citizens in the Kansas City region. It presents guidelines, suggestions, and techniques on how to make communities more walkable and pedestrian-friendly. This guide is intended to help make our region a place of walkable communities. Section 1 provides background information and defines walkable communities. Section 2 covers what is involved in creating these communities and presents the elements of good pedestrian planning. The details of how to make walkable communities a reality are covered in sections 3, 4, and 5.

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Design	Policy	DESIGN GUIDANCE ACCOMMODATING BICYCLE AND PEDESTRIAN TRAVEL: A RECOMMENDED APPROACH	Drafted by the U.S. Department of Transportation with the input and assistance of public agencies, professional associations and advocacy groups	<a href="http://www.fhwa.dot.gov/environment/bikeped/Design.htm">http://www.fhwa.dot.gov/environment/bikeped/Design.htm</a>	US DOT			FHWA	Policy statement adopted by the United States Department of Transportation. USDOT hopes that public agencies, professional associations, advocacy groups, and others adopt this approach as a way of committing themselves to integrating bicycling and walking into the transportation mainstream
Design	Policy	GUIDELINES AND RECOMMENDATIONS TO ACCOMMODATE OLDER DRIVERS AND PEDESTRIANS	U.S. Department of Transportation Federal Highway Administration	<a href="http://www.fhwa.dot.gov/ohrt/guidelines/">Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians</a>			FHWA-RD-01-051		This project revised the scope of the Older Driver Highway Design Handbook published by the Federal Highway Administration (FHWA) in 1998. The Handbook (Highway Design Handbook for Older Drivers and Pedestrians, FHWA-RD-01-103) was updated to presenting recommendations and implementation guidelines only, plus printed and electronic materials. This Guidelines and Recommendations document incorporates new research findings and technical developments and extensive feedback from State, county, and municipal engineers who reviewed and applied recommendations from the 1998 publication. Guidance on how and when to implement the included recommendations is included, as well as codes that indicate at a glance the relationship of each recommendation to standard design manuals, including the Manual on Uniform Traffic Control Devices and the American Association of State Highway and Transportation Officials Green Book.
Design	Policy	HIGHWAY DESIGN HANDBOOK FOR OLDER DRIVERS AND PEDESTRIANS	U.S. Department of Transportation Federal Highway Administration	<a href="http://www.fhwa.dot.gov/ohrt/handbook/">http://www.fhwa.dot.gov/ohrt/handbook/</a>		Aug-01	FHWA-RD-01-103		This Highway Design Handbook for Older Drivers and Pedestrians provides practitioners with a practical information source that links older road user characteristics to highway design, operational, and traffic engineering recommendations by addressing specific roadway features. This Handbook supplements existing standards and guidelines in the areas of highway geometry, operations, and traffic control devices. The information in this Handbook should be of interest to highway designers, traffic engineers, and highway safety specialists involved in the design and operation of highway facilities. In addition, this Handbook will be of interest to researchers concerned with issues of older road user safety and mobility.
Design	Policy	PEDESTRIAN AND BICYCLE PLANNING: A GUIDE TO BEST PRACTICES	Todd Litman, Robin Blair, Bill Demopoulos, Nils Eddy, Anne Fritzel, Danella Laidlaw, Heath Maddox, Katherine Forster	<a href="http://www.vtpi.org/0_nmt.htm">http://www.vtpi.org/0_nmt.htm</a>	Victoria Transport Policy Institute	Oct-00			This guide covers all aspects of pedestrian and bicycle planning. It is intended for policy makers, planners and advocates who want the best current information on ways to make their communities better places for walking and cycling. It provides basic information on various planning and design concepts, and offers extensive references to help implement them. It describes general nonmotorized planning practices, how to measure and predict nonmotorized travel, how to evaluate and prioritize projects, and how to implement various programs that support nonmotorized transportation. It covers planning for paths, sidewalks, bike lanes, street improvements, road and path maintenance, road safety, personal security, universal access (including features to accommodate people with disabilities), nonmotorized traffic law enforcement, education and encouragement programs, and integration with a community's strategic plans and various other programs. There are also appendices that provide more detailed information on planning, design and evaluation.
Design	Policy	STATEWIDE BICYCLE AND PEDESTRIAN INITIATIVE: DRAFT PEDESTRIAN FACILITIES DESIGN GUIDE	Georgia Department of Transportation	<a href="http://www.dot.state.ga.us/DOT/planning/projects/bicycle/ped_facilities_guide/">http://www.dot.state.ga.us/DOT/planning/projects/bicycle/ped_facilities_guide/</a>		Jun-05	Transportation Research Record 1538	Committee on Pedestrians	Currently under development is the "Draft Pedestrian Facilities Guide." This Guide provides direction to design professionals, developers, municipalities and others regarding the design, construction, and maintenance of pedestrian facilities. The Guide will also aid in continuing to address the goals put forth in GDOT's 1995 Bicycle and Pedestrian Plan.
Design	Policy	CREATING SAFE BUILT ENVIRONMENTS FOR CHILDREN	Ellen Vanderslice	<a href="http://americawalks.org/resources/Creating_Safe_Built_Env.pdf">http://americawalks.org/resources/Creating_Safe_Built_Env.pdf</a>	Livable Communities	Sep-03			This three-page synopsis with footnotes was prepared for the September 2003 conference, "Developing and Sustaining Comprehensive Injury Prevention Strategies" in Los Angeles, California. What IS a safe environment? What should we be keeping our kids safe FROM? and how does promoting livable communities foster safer built environments for children?
Design	Transit interface	LINKING BICYCLE AND PEDESTRIAN FACILITIES WITH TRANSIT			National Bicycle and Walking Study	Oct-92	FHWA-PD-93-012	U.S. Department of Transportation Federal Highway Administration	This report deals with how people get to and from public transportation by bicycling or walking, a subject which has not been extensively studied in North America. Intermodal research has attracted little attention in the modally organized transportation agencies of the United States, except where large investments were at stake, such as the construction of truck-rail, airport access, and park-and-ride facilities. Pedestrian and bicycle access to transit has been taken for granted in many communities, and frequently neglected in planning, design, and operations.

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Design	Pedestrian Facilities	DESIGNING SIDEWALKS AND TRAILS FOR ACCESS PART II OF II: BEST PRACTICES DESIGN GUIDE	Kirschbaum, J.B., Axelson, P.W., Longmuir, P.E., Mispagel, K.M., Stein, J.A. and Yamada, D.A	<a href="http://www.fhwa.dot.gov/environment/side_walk2">http://www.fhwa.dot.gov/environment/side_walk2</a>	US Department of Transportation, Federal Highway Administration	2001	FHWA-EP-01-027		This document provides detailed guidance on how to plan and design accessible pedestrian facilities including sidewalks, shared use paths, and recreation trails.
Design	Policy	HOW CAN I FIND AND HELP BUILD A WALKABLE COMMUNITY?	Burden, Dan	<a href="http://www.walkable.org/">http://www.walkable.org/</a>	Walkable Communities, Inc.			Walkable Communities, Inc.	Identifies 12 important items to look at when determining if an area is walkable. Along with that there is a 12 step program (sponsored by the State of Florida) that helps communities achieve or strengthen their community's walkability.
Design Guidelines		BICYCLE AND PEDESTRIAN FACILITIES PLANNING AND DESIGN GUIDELINES	Mike Sims, Environmental Planner II	<a href="http://www.nctcog.dst.tx.us/trans/bikeped/plandesign/">http://www.nctcog.dst.tx.us/trans/bikeped/plandesign/</a>	North Central Texas Council of Governments	Sep-95		North Central Texas Council of Governments	This document contains information useful in planning and designing safe and cost- effective facilities for bicyclists and pedestrians. Standards are provided on bicycle routes, pedestrian facilities, land use planning for bicycle and pedestrian travel, and bicycle parking. The facilities and strategies described are intended to increase bicycle and pedestrian transportation opportunities by providing citizens with accessible and quality facilities.
Facilities	Accessibility	PLANNING AND FUNDING ACCESSIBLE PEDESTRIAN FACILITIES	Institute of Transportation Engineers (ITE), Federal Highway Administration's (FHWA) Bicycle and Pedestrian Office	<a href="http://www.gtcmpe.org/Walkable_Communities/Planning_and_Funding_Accessible_Pedestrian_Facilities%20ITE.pdf">http://www.gtcmpe.org/Walkable_Communities/Planning_and_Funding_Accessible_Pedestrian_Facilities%20ITE.pdf</a>					Summary of funding sources.
Facilities	Animated LED Eyes	USE OF ANIMATED LED 'EYES' PEDESTRIAN SIGNALS TO IMPROVE PEDESTRIAN SAFETY		<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/led_eyes.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/led_eyes.pdf</a>	University of North Carolina Highway Safety Research Center	Jan-00		Florida Department of Transportation	The objective of this study was to evaluate the effects of countdown signals at intersections in Lake Buena Vista, Florida. A "treatment" and "control" study design was used: countdown signals at two intersections were matched with three control intersections that were similar but did not have countdown signals. The study was performed by the University of North Carolina Highway Safety Research Center.
Facilities	Crosswalks	AN EVALUATION OF FLASHING CROSSWALKS IN GAINESVILLE AND LAKELAND	Herman Huang	<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/FLASHXW%20in%20Gville%20Lakeland.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/FLASHXW%20in%20Gville%20Lakeland.pdf</a>	University of North Carolina Highway Safety Research Center	Nov-00		Florida Department of Transportation	This report describes an evaluation of a flashing crosswalk systems in Gainesville, FL and Lakeland, FL. The evaluation was conducted by the University of North Carolina Highway Safety Research Center (HSRC) during 1999.
Facilities	Crosswalks	AN EVALUATION OF HIGH-VISIBILITY CROSSWALK TREATMENTS—CLEARWATER , FLORIDA	Marsha Nitzburg and Richard L. Knoblauch	<a href="http://www.tfhrc.gov/safety/pedbike/pubs/0105.pdf">http://www.tfhrc.gov/safety/pedbike/pubs/0105.pdf</a>	Center for Applied Research, Inc	Aug-01	FHWA-RD-00-105	Office of Safety R&D Federal Highway Administration	A novel overhead illuminated crosswalk sign and high-visibility ladder style crosswalk were evaluated in Clearwater, Florida. Using an experimental/control design, the effect of the novel treatments on driver and pedestrian behavior was determined. A significant 30 percent to 40 percent increase in daytime driver yielding behavior was found. A smaller (8 percent) and statistically insignificant increase in nighttime driver yielding behavior was observed. A large (35 percent) increase in crosswalk usage by pedestrians was noted along with no change in pedestrian overconfidence, running, or conflicts. It was concluded that the high-visibility crosswalk treatments had a positive effect on pedestrian and driver behavior on the relatively narrow low-speed crossings that were studied. Additional work is needed to determine if they will also have a desirable effect on wider, higher-speed roadways.

Subject Area	Topic	Title	Authors	Link/Website	Institution	Date	Report #	Sponsor	Summary
Facilities	Crosswalks	MAKING CROSSWALKS SAFER FOR PEDESTRIANS - APPLICATION OF A MULTIDISCIPLINARY APPROACH TO IMPROVE PEDESTRIAN SAFETY AT CROSSWALKS IN ST. PETERSBURG, FLORIDA		<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/pedyield.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/pedyield.pdf</a>	Center for Urban Transportation Research College of Engineering University of South Florida	Jul-00		Florida Department of Transportation State Safety Office	This report provides an overview of the multidisciplinary program implemented in St. Petersburg, Florida to improve pedestrian safety. The program aimed to increase motorists yielding to pedestrians in crosswalks from single digits to 70 percent and reduce pedestrian-motor vehicle conflicts in crosswalks by 50 percent. Another program goal was to increase pedestrians' feelings of comfort and safety while crossing the street. The report documented the steps involved in assessing pedestrian safety in the community, prioritizing and selecting countermeasures to improve pedestrian safety, implementing engineering, education, and enforcement interventions, and evaluating the effectiveness of the program.
Facilities	Crosswalks	PEDESTRIAN CROSSWALKS - HOW SAFE ARE THEY?		<a href="http://www.dot.state.az.us/ROADS/traffic/xwalk.htm#six">http://www.dot.state.az.us/ROADS/traffic/xwalk.htm#six</a>	Arizona Department of Transportation	Sep-00			The Arizona Department of Transportation's crosswalk policy is based on research conducted over a seven-year period by the City of San Diego. The San Diego approach to evaluating crosswalk needs, which resulted from that research, has resulted in that city being consistently ranked as the safest pedestrian city in the nation. The San Diego study showed traffic engineers that nearly six pedestrian accidents were occurring in marked crosswalks for every one mishap in unmarked crosswalks (those unpainted crosswalks that exist by State law at all intersections). When this ratio was adjusted in terms of relative crosswalk usage, there was still an impressive 2 to 1 difference in accidents.
Facilities	Grade Separation	GUIDELINES FOR TRAFFIC FACILITIES PART 4.3 GRADE SEPARATED PEDESTRIAN FACILITIES	Road and Traffic Authority New South Wales	<a href="http://www.rta.nsw.gov.au/trafficinformation/downloads/gradedseparatedpedestrianfacilities_d11.html">http://www.rta.nsw.gov.au/trafficinformation/downloads/gradedseparatedpedestrianfacilities_d11.html</a>		Jul-87			This guideline provides numerical and other selection criteria which apply for the evaluation of GSPFs on any existing road. Having met or exceeded the criteria it is possible that the provision of the facility will not proceed immediately but more likely that an in-depth investigation of a GSPF or an alternative measure is needed. If the criteria are not met it is unlikely that any further investigations would be necessary.
Facilities	Lightguard	AN EVALUATION OF THE LIGHTGUARD- PEDESTRIAN CROSSWALK WARNING SYSTEM	Herman Huang, Ronald Hughes, Charles Zegeer and Marsha Nitzburg	<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/lgresrch.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/lgresrch.pdf</a>	University of North Carolina at Chapel Hill Highway Safety Research Center, Center for Applied	Jun-99		Florida Department of Transportation Safety Office	This report describes an evaluation of a prototype installation of the LightGuard™ Pedestrian Crosswalk Warning System in Orlando, FL. The evaluation was conducted by the University of North Carolina Highway Safety Research Center (HSRC) with the assistance of the Center for Applied Research (CAR) during 1997 and 1998.
Facilities	Pedestrian Detection Signals	EVALUATION OF AUTOMATED PEDESTRIAN DETECTION AT SIGNALIZED INTERSECTIONS	Ronald Hughes, Herman Huang, Charles Zegeer, and Michael Cynecki	<a href="http://www.tfhrc.gov/safety/pedbike/pubs/00-097.pdf">http://www.tfhrc.gov/safety/pedbike/pubs/00-097.pdf</a>	University of North Carolina at Chapel Hill Highway Safety Research Center, City of Phoenix	Aug-01	FHWA-Rd-00-097	Federal Highway Administration Turner-Fairbank Highway Research Center	The objective of the present study was to evaluate whether automated pedestrian detectors, when used in conjunction with standard pedestrian push buttons, would result in fewer overall pedestrian-vehicle conflicts and fewer inappropriate crossings (i.e., beginning to cross during the Don't Walk signal). The results of this study indicated a significant reduction in vehicle-pedestrian conflicts as well as a reduction in the number of pedestrians beginning to cross during the Don't Walk signal. Detailed field testing of the microwave equipment in Phoenix revealed that fine tuning of the detection zone is still needed to reduce the number of false calls and missed calls
Facilities	Push Buttons	AN EVALUATION OF ILLUMINATED PEDESTRIAN PUSH BUTTONS IN WINDSOR, ONTARIO	Herman F. Huang and Charles V. Zegeer	<a href="http://www.tfhrc.gov/safety/pedbike/pubs/0102.pdf">http://www.tfhrc.gov/safety/pedbike/pubs/0102.pdf</a>	University of North Carolina Highway Safety Research Center	Aug-01	FHWA-RD-00-102	Federal Highway Administration Turner-Fairbank Highway Research Center	At many intersections, pedestrians must push buttons to activate the Walk phase. However, they often do not know whether the button has been pressed and whether it is functional. If the Walk phase does not appear soon after the button has been pressed, they may believe that the button does not work and start crossing early, while the steady Don't Walk is still being displayed. When a pedestrian presses an illuminated push button, a light near the button turns on, indicating that the Walk phase has been activated and will appear. The objective of this study is to evaluate the effects of illuminated push buttons on pedestrian behavior.
Facilities	Reference Guide	PEDESTRIAN FACILITIES REFERENCE GUIDE	National Center for Bicycling and Walking	<a href="http://www.bikewalk.org/walking/design_guide/pedestrian_design_guide_index.htm">http://www.bikewalk.org/walking/design_guide/pedestrian_design_guide_index.htm</a>					On line guide to design and implementation of walkways, intersections, curb ramps, extensions and radii, signal timing and push buttons, signing, marking, amenities, street reconfiguration, bridges, traffic calming, maintenance and other pedestrian facility, design and education areas.
Facilities	Roundabouts	PEDESTRIAN ACCESS TO MODERN ROUNDABOUTS: DESIGN AND OPERATIONAL ISSUES FOR PEDESTRIANS WHO ARE BLIND		<a href="http://www.access-board.gov/publications/roundabouts/bulletin.htm">http://www.access-board.gov/publications/roundabouts/bulletin.htm</a>	The Access Board	Aug-03			Summarizes orientation and mobility techniques used by pedestrians who are blind in traveling independently across streets; highlights key differences between roundabouts and traditional intersections with respect to these techniques; suggests approaches that may improve the accessibility of roundabouts to blind pedestrians; and encourages transportation engineers and planners to implement and test design features to improve roundabout accessibility.

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Facilities	Shoulders	AN EVALUATION OF ROAD SHOULDERS AS A BICYCLE AND PEDESTRIAN FACILITY	William W. Hunter	<a href="http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/redstudy.pdf">http://www.dot.state.fl.us/Safety/ped_bike/handbooks_and_research/research/redstudy.pdf</a>	University of North Carolina Highway Safety Research Center	Jul-98		FLORIDA DEPARTMENT OF TRANSPORTATION BICYCLE/PEDESTRIAN SAFETY	A scenic road in Lake County, Florida is the subject of this evaluation. The evaluation was conducted by the University of North Carolina Highway Safety Research Center (HSRC). In the early 1990s the road was scheduled to receive shoulders. This was opposed by the residents who feared that speeds would increase with the addition of shoulders. The Florida DOT suggested that painting the shoulders might be a treatment that could be adapted from Europe. The evaluation examined several items: speed data, whether the shoulder was used by bicyclists, lateral positioning of bicyclists being passed by motor vehicles, and the amount and severity of vehicular encroachment into opposing travel lane.
Facilities	User's Guide	PEDESTRIAN FACILITIES USERS GUIDE — PROVIDING SAFETY AND MOBILITY	U.S. Department of Transportation Federal Highway Administration March 2002	<a href="#">Pedestrian Facilities Users Guide</a>			FHWA-RD-01-102		The purpose of this guide is to provide information on how to identify the safety and mobility needs of pedestrians within roadway rights-of-way. The guide provides guidance on how to select pedestrian safety improvements to address specific crash problems.
Facilities:	Signals	ACCESSIBLE PEDESTRIAN SIGNALS: SYNTHESIS AND GUIDE TO BEST PRACTICE	J.M. Barlow, B.L. Bentzen, Lee Tabor	<a href="http://www.walkinginfo.org/aps/home.cfm">http://www.walkinginfo.org/aps/home.cfm</a>		Accessed 4-05-04		American Association of State Highway and Transportation Officials, in cooperation with the Federal Highway Administration. Conducted in the National Cooperative Highway Research Program, which is administered by the Transportation Research Board of the National Research Council.	This online provides background information on how pedestrians who are blind or visually impaired cross streets, and how Accessible Pedestrian Signals assist this process. This document provides guidance on how and when to install accessible pedestrian signals. It also summarizes the relevant information from the MUTCD and the Draft Guidelines for Accessible Public Rights-of-way.
Facilities	Accessibility	ADA DRAFT PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES		<a href="http://www.access-board.gov/rowdraft.htm">http://www.access-board.gov/rowdraft.htm</a>	U.S. Access Board	Jun-02		U.S. Access Board	These guidelines are under revision as a result of comments received on the first draft. Once these comments are addressed, a second draft will be provided for comment.
Facilities	Roundabouts	ROUNDBABOUTS: AN INFORMATIONAL GUIDE		<a href="#">Roundabouts</a>		Jun-00	FHWA-RD-00-67		This guide provides information and guidance on roundabouts, resulting in designs that are suitable for a variety of typical conditions in the United States. The scope of this guide is to provide general information, planning techniques, evaluation procedures for assessing operational and safety performance, and design guidelines for roundabouts. The relative safety advantages of roundabout intersections diminish at high traffic flows, particularly with regard to pedestrians and bicyclists. The advantages of larger roundabouts are their higher capacities that may make them attractive alternatives at sites with high traffic volumes. More intricate design is required to ensure adequate operational and safety performance.
Facilities	Pedestrian Facilities	AASHTO GUIDE TO THE DEVELOPMENT OF PEDESTRIAN FACILITIES	American Association of State Highway and Transportation Officials			Fall 2004		National Cooperative Highway Research Program	The National Cooperative Highway Research Program sponsored the development of this Guide, which is intended to supplement the AASHTO Greenbooks' treatment of pedestrian facilities. This document was developed with the input of national experts on accessible pedestrian design. The review process for the AASHTO Pedestrian Guide is complete and the document is expected to be published in the fall 2004.



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Health	Older Pedestrian	STEPPING OUT: MATURE ADULTS BE HEALTHY, WALK SAFELY	National Highway Transportation Safety Administration	<a href="http://www.nhtsa.dot.gov/people/injury/old_drive/SteppingOut/pdf_version/stepping_out.pdf">http://www.nhtsa.dot.gov/people/injury/old_drive/SteppingOut/pdf_version/stepping_out.pdf</a>		Jul-04		U.S. Department of Transportation	Stepping Out was developed to fill the need for pedestrian safety materials for older adults, age 65 and above. This booklet is not just a compilation of safety information for older people. The intent is to promote safe walking as an easy way to maintain ones' health.
Health	Policy	PROMOTING SAFE WALKING AND CYCLING TO IMPROVE PUBLIC HEALTH: LESSONS FROM THE NETHERLANDS AND GERMANY	John Pucher, PhD, and Lewis Dijkstra, PhD	<a href="http://www.vtpi.org/A_JHPucher.pdf">http://www.vtpi.org/A_JHPucher.pdf</a>	Bloustein School of Planning and Public Policy Rutgers University	Sep-03		American Journal of Public Health,	Examination of the public health consequences of unsafe and inconvenient walking and bicycling conditions in American cities and suggest improvements based on successful policies in The Netherlands and Germany
Implementation	Advocacy	INTRODUCTION TO PEDESTRIAN ADVOCACY	AmericaWALKS	<a href="http://americawalks.org/PedAdv.pdf">http://americawalks.org/PedAdv.pdf</a>					This America Walks document will provide you with an overview of the importance of walking that you can share with friends, neighbors, and community leaders.
Implementation	Advocacy	TOOLBOX FOR PEDESTRIAN ADVOCATES	AmericaWALKS	<a href="http://americawalks.org/resources/toolbox/index.htm">http://americawalks.org/resources/toolbox/index.htm</a>					Want to know the basics of starting a grassroots group? Want to see examples of newsletters and brochures from other groups? You'll find what you need in the toolkit for new groups .
Implementation	Checklist	WALK TO SCHOOL WALKABILITY CHECKLIST		<a href="http://www.walktoschool-usa.org/pdf/walkingchecklist.pdf">http://www.walktoschool-usa.org/pdf/walkingchecklist.pdf</a>	walktoschool.org			Partnership for a Walkable America, Pedestrian and Bicycle Research Center, EPA, USDOT	Checklist to determine how walkable your route to school/community is.
Implementation	Checklist	WALKABILITY CHECKLIST		<a href="http://www.nhtsa.dot.gov/people/outreach/safesobr/OPlanner/n_cpsw/walk1.html">http://www.nhtsa.dot.gov/people/outreach/safesobr/OPlanner/n_cpsw/walk1.html</a>	National Child Passenger Safety Week			National Child Passenger Safety Week.	Walkability Checklist
Implementation	Checklist	WALKABILITY CHECKLIST		<a href="http://www.nsc.org/walk/wkcheck.htm">http://www.nsc.org/walk/wkcheck.htm</a>	Partnership for a Walkable America			Partnership for a Walkable America	Walkability Checklist
Safety	Accident	A STUDY OF FATAL PEDESTRIAN CRASHES IN FLORIDA	Michael R. Baltes,	<a href="http://safety.fhwa.dot.gov/fourthlevel/pdf/00861.pdf">http://safety.fhwa.dot.gov/fourthlevel/pdf/00861.pdf</a>	Center for Urban Transportation Research (CUTR) University of South Florida, Tampa				In this study, trained researchers assumed roles as pedestrians in which they began bravely crossing just prior to motorists approaching the intersection. Katz et al. found that motorists were more likely to reduce their speed or stop for pedestrians more often when the motorist's approach speed was low; the crossing took place at a marked crosswalk; there was a relatively long distance between the motorist and the pedestrian's point of entry into the crosswalk; a group of pedestrians, rather than a lone pedestrian, attempted to cross; the pedestrian did not look at the approaching vehicle; and female or older motorists were most likely behind the wheel
Safety	Accident	AN ANALYSIS BASED ON HOSPITAL EMERGENCY DEPARTMENT DATA	David A. Noyce, Ph.D., P.E., Janet M. Barlow, C.O.M.S	<a href="http://www.access-board.gov/research&amp;trailing=APS/report.htm">http://www.access-board.gov/research&amp;trailing=APS/report.htm</a>				U.S. Access Board	The primary objective of this research was to provide detailed accessible pedestrian signal (APS) product information specifically focused on the interfacing of APS devices and traffic signal controllers. Information on the various traffic signal controllers used today is also provided. The information is intended for traffic engineers, traffic signal technicians, and others who are implementing APS technologies. This report addresses the following information: United States and foreign APS technologies, including those that provide mapping, speech, and location features for blind pedestrians; Traffic signal controller/APS interfaces, including wiring and power requirements and interaction with conflict monitoring technology; Lessons learned from existing installations; and United States traffic signal controller technologies.

Subject Area	Topic	Title	Authors	Link/Website	Institution	Date	Report #	Sponsor	Summary
Safety	Crash	AN ANALYSIS OF FACTORS CONTRIBUTING TO "WALKING ALONG ROADWAY" CRASHES: RESEARCH STUDY AND GUIDELINES FOR SIDEWALKS AND WALKWAYS	Patrick J. McMahon, Charles V. Zegeer, Chandler Duncan, Richard L. Knoblauch, J. Richard Stewart, and Asad J. Khattak	<a href="http://www.walkinginfo.org/pdf/r&amp;d/SidewalkReport.pdf">http://www.walkinginfo.org/pdf/r&amp;d/SidewalkReport.pdf</a>	University of North Carolina Highway Safety Research Center	Jun-05	FHWA-RD-01-101		There are a variety of factors widely acknowledged to have an impact on the risk of pedestrian/motor vehicle crashes. The factors that have been most extensively researched are the geometric characteristics of the road, including the presence of sidewalks. However, in relevant epidemiological research, factors related to demographics and neighborhood characteristics have been alluded to, but not sufficiently researched. This study uses a case-control methodology and applies conditional and binary logistic models to determine the effects of cross-sectional roadway design attributes and socioeconomic and other census block group data on the likelihood that a site is a crash site. A total of 47 crash sites and 94 comparison sites are analyzed. Physical design factors found to be associated with a significantly higher likelihood of being a crash site are higher traffic volume, higher speed limit, the lack of wide grassy walkable areas, and the absence of sidewalks. When these roadway factors are controlled for, non-geometric factors associated with a significantly higher likelihood of being a crash site are high levels of urbanization and high levels of population density.
Safety	Children	STOP SIGN VIOLATIONS PUT CHILD PEDESTRIANS AT RISK: A NATIONAL SURVEY OF MOTORIST BEHAVIOR AT STOP SIGNS IN SCHOOL ZONES AND RESIDENTIAL AREAS	National Safe Kids Campaign	<a href="http://www.safekids.org/content_documents/Stop_Sign_Violations_Put_Child_Pedestrians_At_Risk_-_full_report.pdf">http://www.safekids.org/content_documents/Stop_Sign_Violations_Put_Child_Pedestrians_At_Risk_-_full_report.pdf</a>	National Safe Kids Campaign	Oct-03		National Safe Kids Campaign and FEDEX Express	New research unveiled today by the National SAFE KIDS Campaign and FedEx Express revealed that nearly half of motorists are not stopping at stop signs near school zones and in residential areas across the nation, potentially endangering children as they travel to and from school each day.
Safety	Crosswalks	SAFETY EFFECTS OF MARKED VS. UNMARKED CROSSWALKS AT UNCONTROLLED LOCATIONS: EXECUTIVE SUMMARY AND RECOMMENDED GUIDELINES	Charles V. Zegeer, J. Richard Stewart, Herman H. Huang, and Peter A. Lagerwey	<a href="http://www.walkinginfo.org/pdf/r&amp;d/crosswalk_021302.pdf">http://www.walkinginfo.org/pdf/r&amp;d/crosswalk_021302.pdf</a>	University of North Carolina Highway Safety Research Center	Mar-01	FHWA-RD-01-075	Office of Safety Research and Development Federal Highway Administration	Pedestrians are legitimate users of the transportation system, and they should, therefore, be able to use this system safely. Pedestrian needs in crossing streets should be identified, and appropriate solutions should be selected to improve pedestrian safety and access. Deciding where to mark crosswalks is only one consideration in meeting that objective. This study involved an analysis of 5 years of pedestrian crashes at 1,000 marked crosswalks and 1,000 matched unmarked comparison sites. All sites in this study had no traffic signal or stop sign on the approaches. Detailed data were collected on traffic volume, pedestrian exposure, number of lanes, median type, speed limit, and other site variables. Poisson and negative binomial regressive models were used.
Safety	Fatalities	PEDESTRIAN ROADWAY FATALITIES	Shankar, Umesh	<a href="http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2003/809-456.pdf">http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2003/809-456.pdf</a>	Mathematical Analysis Division, National Center for Statistics and Analysis National Highway Traffic Safety Administration	Apr-03	DOT HS 809 456	Mathematical Analysis Division, National Center for Statistics and Analysis National Highway Traffic Safety Administration	The objective of this study by the National Center for Statistics and Analysis (NCSA) was to examine the pedestrian fatalities in motor vehicle crashes. Data was analyzed for trends using the 1998 through 2001 NCSA's Fatality Analysis Reporting System (FARS). Rates are calculated based on the US resident population data from the Census Bureau. Almost 175,000 pedestrians died in all motor vehicle crashes with more than 162,000 pedestrians killed in single vehicle crashes between 1975 and 2000. Pedestrian fatalities from all crashes reached a low of 4,763 fatalities in 2000. In 2001, pedestrian fatalities slightly increased to 4,882. However, in 2001, pedestrian fatalities accounted for about 12 percent of all fatalities and 85 percent of all non-occupant fatalities in motor vehicle crashes. Pedestrian fatalities in single vehicle crashes accounted for over 90 percent of the pedestrian fatalities from all fatal motor vehicle crashes. With such a high percentage of pedestrian fatalities from single vehicle crashes, this report was written to provide insight into the possible causes for these pedestrian fatalities.
Safety	Injuries	LITERATURE REVIEW ON VEHICLE TRAVEL SPEEDS AND PEDESTRIAN INJURIES	W.A. Leaf and D.F. Preusser	<a href="http://www.nhtsa.dot.gov/people/injury/research/pub/HS809012.html">http://www.nhtsa.dot.gov/people/injury/research/pub/HS809012.html</a>	Preusser Research Group, Inc	Oct-99	DOT HS 809 021	U. S. Department of Transportation National Highway Traffic Safety Administration	The relationship between vehicle travel speeds and resulting pedestrian injury was reviewed in the literature and in existing data sets. Results indicated that higher vehicle speeds are strongly associated with both a greater likelihood of pedestrian crash occurrence and more serious resulting pedestrian injury. It was estimated that only 5 percent of pedestrians would die when struck by a vehicle traveling at 20 miles per hour or less. This compares with fatality rates of 40, 80, and nearly 100 percent for striking speeds of 30, 40, and 50 miles per hour or more respectively. Reductions in vehicle travel speeds can be achieved through lowered speed limits, police enforcement of speed limits, and associated public information. More long-lasting speed reductions in neighborhoods where vehicles and pedestrians commonly share the roadway can be achieved through engineering approaches generally known as traffic calming. Countermeasures include road humps, roundabouts, other horizontal traffic deflections (e.g., chicanes), and increased use of stop signs.

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Safety	Injury	INJURIES TO PEDESTRIANS AND BICYCLISTS		<a href="http://www.tfhrc.gov/safety/pedbike/research/99078/99-078.htm">http://www.tfhrc.gov/safety/pedbike/research/99078/99-078.htm</a>			FHWA-RD-99-078		US DOT data on crash statistics has relied almost entirely on State motor vehicle crash data as their primary source of information on events causing injury to pedestrians and bicyclists. This data is not necessarily representative of the extent of accidents as they are limited almost entirely to motor vehicle-related events that occur on public roadways. Specifically, they exclude: (1) many bicycle-motor vehicle and pedestrian-motor vehicle crashes that occur in non-roadway locations such as parking lots, driveways, and sidewalks, and (2) bicyclist and pedestrian falls or other non-collision events that do not involve a motor vehicle, regardless of whether they occur on a roadway or in a non-roadway location.
Safety	Injury Prevention	PEDESTRIAN INJURY PREVENTION FACT SHEET		<a href="http://www.cdc.gov/nccipc/factsheets/pedes.htm">http://www.cdc.gov/nccipc/factsheets/pedes.htm</a>	National Centers for Injury Prevention and Control	Site accessed 4-12-04			Fact sheet on prevention of pedestrian injuries.
Safety	Lessons Learned	MAKING WALKING AND CYCLING SAFER: LESSONS FROM EUROPE	John Pucher and Lewis Dijkstra	<a href="http://www.vtpi.org/puchertq.pdf">http://www.vtpi.org/puchertq.pdf</a>	Department of Urban Planning Rutgers University, Bloustein School	Summer 2000		Transportation Quarterly	The neglect of pedestrian and bicycling safety in the United States has made these modes dangerous ways of getting around. Pedestrian fatalities are 36 times higher than car occupant fatalities per km traveled, and bicycling fatalities are 11 times higher than car occupant fatalities per km. Walking and bicycling can be made quite safe, however, as clearly shown by the much lower fatality rates in The Netherlands and Germany. Pedestrian fatalities per billion km walked are less than a tenth as high as in the United States, and bicyclist fatalities per billion km cycled are only a fourth as high. The Netherlands and Germany have long recognized the importance of pedestrian and bicyclist safety. Over the past two decades, these countries have undertaken a wide range of measures to improve safety: better facilities for walking and bicycling; urban design sensitive to the needs of non-motorists; traffic calming of residential neighborhoods; restrictions on motor vehicle use in cities; rigorous traffic education of both motorists and non-motorists; and strict enforcement of traffic regulations protecting pedestrians and bicyclists.
Safety	Pedestrian Zones	ZONE GUIDE FOR PEDESTRIAN SAFETY		<a href="http://safety.fhwa.dot.gov/fourthlevel/pdf/tech3.pdf">http://safety.fhwa.dot.gov/fourthlevel/pdf/tech3.pdf</a>		May-98	181	National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA)	Research study to apply the safety zone concept to reducing crashes involving older (65+) adult pedestrians. That study, released earlier this year, developed procedures for defining pedestrian safety zones, and developed, implemented, and evaluated a countermeasure program in Phoenix, Arizona and Chicago, Illinois (see Traffic Tech 174, March 1998). Older pedestrian crashes were reduced by more than 46 percent in target zones. As a second part of the study, Dunlap and Associates prepared a concise how-to document, Zone Guide for Pedestrian Safety. The Guide describes step-by-step procedures officials can use in applying the zone process to their community's pedestrian safety problems.
Safety	Policy	PEDESTRIAN SAFETY HANDBOOK	Debbie Grubb, Ed.	<a href="http://www.acb.org/pedestrian/phd2a.html">http://www.acb.org/pedestrian/phd2a.html</a>	The American Council of the Blind	Apr-00			A Handbook for Advocates Dedicated to Improving the pedestrian environment Guaranteeing people who are blind or visually impaired Access to Intersection Identification and Traffic Control Information
Safety	Policy	TRAFFIC SAFETY AND OLDER AMERICANS: MAKING ROADS SAFER FOR MOTORISTS	The Road Information Program (TRIP)	<a href="http://www.traffic-safety.org/older-america">Traffic Safety And Older Americans</a>		Oct-00			Significant safety improvements to our nation's roads will help preserve and extend the personal mobility these older drivers have enjoyed throughout their lives. This report summarizes demographic data highlighting the need to address older motorist's needs for improved safety. The report reiterates the recommendations of the FHWA report, "Older Driver Highway Design Handbook.
Safety	School	SAFE ROUTES TO SCHOOL: GETTING STARTED WITH SR2S	Bruce Appleyard	<a href="http://www.bikewalk.org/safe_routes_to_school/SR2S_introduction.htm">http://www.bikewalk.org/safe_routes_to_school/SR2S_introduction.htm</a>	National Center for Bicycling and Walking				Internet guide including concept and history, getting started, activities, case studies, funding, planning, data, legislation and resources sections for Safe Route to School programs.
Safety	Teaching Materials	PEDESTRIAN SAFETY ROADSHOW		<a href="http://safety.fhwa.dot.gov/roadshow/walk/">http://safety.fhwa.dot.gov/roadshow/walk/</a>					This program is not just a 4-hour roadshow. It combines other resources that have been developed to help communities identify and address their pedestrian safety concerns. These resources include: WALK!, a 12-minute video that address these issues: Pedestrian Safety Resource Catalog, an overview of the process involved in a community pedestrian program and an annotated listing of the technical resources that are available from the Department of Transportation; a Local Sponsor's guide, a step-by-step guide to host a Pedestrian Safety roadshow; Wanted - Walkable Communities brochure that describes the Roadshow process; and the "Tool Box", which is being developed, comprising a set of information/documents on pedestrian facilities and community building.

Subject Area	Topic	Title	Authors	Link/Website	Institution	Date	Report #	Sponsor	Summary
Safety	Case Studies	SAFER PLACES: THE PLANNING SYSTEM AND CRIME PREVENTION	Planning Directorate, London UK	<a href="http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/page/odpm_plan_028449.pdf">http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/page/odpm_plan_028449.pdf</a>	Office of the Deputy Prime Minister, London UK	Apr-04			Lists seven attributes of safer places. As well as physical protection by means of secure doors, locks and alarms, they cover well-defined routes, good surveillance and the promotion of a sense of ownership. Practical crime prevention measures are given in 17 case studies, which cover housing developments, a town centre, an industrial estate, a college, a car park, a bus station and a park.
Safety	Policy Project	MEAN STREETS 2002	Ernst, Michelle and McCann, Barbara	<a href="http://www.transact.org/report">www.transact.org/report</a>	Surfact Transportation Policy Project	2002			Data was collected on pedestrian fatalities and injuries nationwide. A Pedestrian Danger Index (PDI) was calculated for each state. Looks at reasons why communities are becoming more dangerous to walk in, how this relates to federal spending on pedestrian facilities, and the correlation between walking and health.
Health		QUANTIFYING THE COST OF PHYSICAL INACTIVITY	Active Living Leadership	<a href="http://www.activelivingleadership.org/costcalc.htm">http://www.activelivingleadership.org/costcalc.htm</a>				Robert Wood Johnson Foundation	Active Living Leadership is a website developed to support government leaders as they create and promote policies, programs and places that enable active living to improve the health, well-being and vitality of communities